

declaration by the chairman that a general meeting is not the occasion for an explanation of such peculiar circumstances is one with which many will sympathise; but the public is entitled to full information at the earliest convenient opportunity. Pending more precise knowledge of the facts, it would not be fair to the late managing directors, or to the board, to pass judgment on their action. If, however, as the published statements at present suggest, incompatibility of temperament is the cause, chemists will regard them as having failed in realising their responsibility to science at a critical juncture; on the other hand, the board can scarcely escape the reproach of having allowed an impossible situation to continue far beyond the point at which a surgical operation had become an obvious necessity. Having regard to the immense scientific and national interests which are involved in the ultimate success of this enterprise, and to the large sum of public money which has been invested in the corporation, its future conduct demands very careful scrutiny.

Alcoholology.

Notes on a Cellar-book. By George Saintsbury. New edition. Pp. xxxi+228. (London: Macmillan and Co., Ltd., 1920.) 7s. 6d. net.

THAT constituent principle of all vinous or spirituous drinks which maketh glad the heart of man, no matter how diverse their origin—and this diversity is something astonishing—is commonly reputed to be alcohol. But since this word, in scientific terminology, has lost its original restricted meaning, and is now used generically to comprehend a multitude of substances, solids as well as liquids, the majority of which are not produced by fermentation, it is desirable to be more precise, and to say that this exhilarating principle is held to be the ethyl alcohol of the chemist. All alcohols are not toxic, although certain of the congeners of ethyl alcohol—such as methyl, propyl, and butyl alcohols—are highly poisonous—far more so, apparently, than ethyl alcohol. On the other hand, glycerin, which is regarded by the chemist as an alcohol, is non-poisonous. Other instances of non-toxic alcohols might be quoted.

The stimulating, as distinct from the toxic, effect on the normal individual of what we usually call alcoholic beverages is a very complex phenomenon. It is partly physiological and partly psychological. To begin with, the liquid must be pleasant, or at least not repugnant,

to the senses. The physiological effect is probably not wholly due to the ethyl alcohol. Perfectly pure ethyl alcohol, in the sense in which the chemist understands the term "pure," is seldom seen, and is certainly never a commercial article. When produced by synthetic processes from inorganic materials it is devoid of all flavour; it is as characterless, indeed, as distilled water. To drink it would afford no pleasure to a sane person. The ethyl alcohol of all fermented liquids, whether they are distilled or not, is accompanied by a variety of substances, such as the alcohols chemically related to ethyl alcohol, as well as ethers, esters, aldehydes, and other products, originally, in the case of wine and cognac, contained in the must or juice of the grape, or, in the case of spirits, derived from the fermented wort of various grains. In the case of liqueurs and cordials, the composition is far more complex by reason of the flavouring or other ingredients present. Some of these may be factitious substances made to simulate natural products, but with widely different physiological properties. The main point is that the substances associated with the ethyl alcohol in wine, beer, spirits, liqueurs, cordials, etc., contribute their effect to the character of the beverage and also to its physiological action; they may, indeed, in certain cases overpower, or mask, that due to the ethyl alcohol alone.

The cult of alcohol is, however, too vast a subject to be treated at greater length in such a notice as the present. It is of an immemorial antiquity. As we are informed, it has occupied mankind at least since the days of Noah, who, in the words of the German song, was certainly "ein frommer Mann," as well as a husbandman. But there were tillers of the ground before the Flood, and even Cain may have planted a vineyard, for it is not expressly stated that Noah was the first to do so. In that case it may have occasioned the first recorded murder, *pace* Prof. Saintsbury, who fails to see any connection between crime and strong drink.

The literature of alcoholology—that is, the literature which treats of the origin, nature, and properties of alcoholic beverages; which sings their praises and extols their benefits; or which, on the other hand, anathematizes the wine when it is red, stigmatising it as a mocker, which biteth like a serpent and stingeth like an adder, and which curses strong drink as the source of woe and sorrow, of contention and babbling, of wounds without cause, and redness of eyes—is probably one of the most extensive in the

world. Thousands of volumes have been written upon the subject, and doubtless will continue to be written, for it is of perennial interest, as the book before us testifies.

Prof. Saintsbury does not profess to be more than an amateur alcohologist. His present treatise, if such it can be termed, has no pretensions to profundity. Serious books on wine, he thinks, have, as a rule, been rather dull, and to be dull on such a subject is worse than a crime—it is a blunder. He discourses freely and pleasantly, and with the lightest possible touch, concerning his reminiscences of the contents of a cellar, accumulated at various times during upwards of half a century, more in the interests of a refined hospitality than of winebibbing and the riotous eating of flesh, as the Wise Man has it. He tells us frankly what he prefers, and on what he sets little store. But he is too wise to be dogmatic. His preferences, he learns, are not always shared by others, and he fears he may occasionally wound worthy feelings by what he writes. To nothing is the old adage, *De gustibus*, etc., more applicable than to a man's drink. The Lord Derby who preferred the gout to a certain brand of sherry would doubtless find people to whom the wine was palatable. Prof. Saintsbury can, however, be emphatic enough at times. He has unmeasured contempt for what he denounces as the dishonesty of the so-called temperance party. To his mind "it is a question whether the most Jesuitical Jesuit of the most heated Protestant imagination has ever outdone a thorough-going temperance advocate in the endless dodgings and windings, suppressions and suggestions of his method." This is *trop de zèle*. There was no occasion to attempt to break a lance with the temperance party. Sensible men will agree with the author that *abusus non tollit usum* is a sufficient reply to what he terms "the unscrupulous exaggeration of partisans," and he would have been well advised to leave it at that. All temperance advocates are not fanatics or faddists, and the opinions of earnest, thoughtful, and conscientious men are worthy of respect. There is such a thing as intemperance in argument as well as in alcohol. Moreover, the spirit of self-denial which actuated thousands of men during the gravest crisis through which this country has ever passed is worthy of a more generous recognition than it receives. Prof. Saintsbury's arguments would have met with very short shrift at the hands of the late Sir Victor Horsley.

These apart, the book affords very pleasant reading, and an idle half-hour may be pleasantly spent in dipping into its pages.

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Some Aspects of Psychology.

- (1) *Educational Psychology*. By Dr. Daniel Starch. Pp. xi+473. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1920.) 14s. net.
- (2) *The Psychology of Childhood*. By Dr. Naomi Norsworthy and Dr. Mary Theodora Whitley. (Brief Course Series in Education.) Pp. xix+375. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1920.) 10s. net.
- (3) *Human Psychology*. By Prof. Howard C. Warren. Pp. xx+460. (London: Constable and Co., Ltd., 1920.) 12s. net.
- (4) *Spiritualism and the New Psychology: An Explanation of Spiritualist Phenomena and Beliefs in Terms of Modern Knowledge*. By Dr. Millais Culpin. With an introduction by Prof. Leonard Hill. Pp. xvi+159. (London: Edward Arnold, 1920.) 6s. net.

THOSE who are by nature and training sufficiently eupeptic to digest a diet of well-prepared statistics will find Dr. Starch's "Educational Psychology" (1) to their taste, and will profit by its assimilation. Most English teachers prefer general impressions handed on by tradition from masters of their craft, and endorsed, as they think, by personal experience, to results expressed in coefficients of correlation. But some of them want to know what all this mass of statistical work really comes to, and how far it is helpful as a guide to practice. The author goes far to meet their requirements. After outlining the nature of the problems that arise, he deals (i) with the native equipment of human beings, and (ii) with the psychology of learning, first "in general," and then in the case of sundry recognised school subjects.

The reader will probably turn with special interest to the treatment of certain large questions such as the inheritance of mental traits and the transference of training. As a result of a review of the statistical evidence so far to hand, Dr. Starch concludes that the ultimate achievement of any given individual is due to his inherited ability probably to the extent of from 60 to 90 per cent. and to actual differences in opportunity to the extent of only from 10 to 40 per cent. If, then, nature bears to nurture something like the proportion of three to one, and if there is but little statistical evidence in support of the cherished belief that the outcome of nurture in one generation is so transmitted as to contribute to the inherited nature of the next, it might seem that the rôle of the teacher is less important than he is apt to